Warm Up 9|10|12: Simplify:

$$\left(\frac{8a^{-4}b^{7}c^{2}}{2a^{3}b^{-5}c^{4}}\right)^{-2} = \frac{8^{-2}a^{8}b^{-14}c^{-4}}{2^{-2}a^{-6}b^{10}c^{-8}}$$

$$\frac{2^{2}a^{8}a^{6}c^{8}}{8^{2}b^{14}b^{10}c^{4}} = \frac{4a^{14}c^{4}}{64b^{24}} = \frac{a^{14}c^{4}}{16b^{24}}$$

$$\frac{2p^{-3}q^{-4}}{p^{2}q^{-8}} = \frac{2q^{8}}{p^{3}p^{2}q^{4}} = \frac{2q^{4}}{p^{5}}$$

$$\left(\frac{2x^{-3}y^{2}z}{-3x^{2}y^{-5}z^{3}}\right)^{2} = \frac{2^{2}x^{-6}y^{4}z^{2}}{(-3)^{2}x^{4}y^{-10}z^{6}}$$

$$\frac{4y^{4}y^{10}z^{2}}{9x^{6}x^{4}z^{6}} = \frac{4y^{14}}{9x^{10}z^{4}}$$

$a = -3$

$b = 2$

$$-2a + 5b + 6a - 2b + a$$

$$-2(-3) + 5(2) + 6(-3) - 2(2) + (-3)$$

$$6 + 10 - 18 - 4 - 3$$

$$16 - 18 - 4 - 3$$

$$-2 - 4 - 3$$

$$-6 - 3$$

$$\boxed{-9}$$

$y(3-x)+x^2$

$x=2$
$y=12$

$12(3-2)+(2)^2$

$12(1)+4$

$12+4=\boxed{16}$

$6s^2$

$6(4)^2 = 96$

$6(2.5)^2 = 37.5$

Homework: Practice 1.4 { # 5-13, # 26-31 skip 28

(9) brother 1 + brother 2 = 55

$15 + x + x = 55$

$2x + 15 = 55$

$-15 \quad -15$

$2x = 40$

$x = 20$

bro 1 = $35

bro 2 = $20

(10) side 1 + side 2 + side 3 = 15

$5x + 12x + 13x = 15$

$\frac{30x}{30} = \frac{15}{30}$

$x = \frac{1}{2}$ or .5

side 1 = 5(.5)

2.5

side 2 = 12(.5)

6

side 3 = 13(.5)

6.5

(11) 1st number + 2nd number + 3rd number = 126

$x + x+1 + x+2 = 126$

(26)

train 1 train 2

$$4(x + 2x) = 600$$

(27) cube 1 + cube 2 = total volume

$$x^3 + (2x)^3 = 72\,cm^3$$

$$x^3 + 8x^3 = 72$$

(29) bus 1 + bus 2 = distance

$3(x + x-20) = 270$

Section 1.4: Solving Equations:

① $-27 + 6x = 3(x-3)$

(a) $5(x+4)+3x=-6(2x+10)$

Sometimes, Always, or Never?

③ $11 + 3x - 7 = 6x + 5 - 3x$

④ $10x + 5 - 2x = 4 + 4x + 1$